

# CIGS Thin-Film Solar Modules

STN-135 / STN-140 / STN-145 / STN-150 Solar Modules

Stion's solar modules provide exceptional efficiency and superior performance. The modules utilize Stion's breakthrough technology, developed and manufactured in the USA by a world class team with unmatched solar expertise in thin films.

## **High Efficiency**

Advanced proprietary copper, indium, gallium, selenium, and sulfur (CIGS) thin-film technology yields high efficiency modules.

# **Superior Power Performance**

Low temperature coefficient and excellent shade and debris tolerance provide outstanding energy delivery per watt.

### **Aesthetics and Design**

Black design has virtually invisible cell lines that offer superior aesthetics. The black anodized aluminum frame is compatible with most racking systems. Convenient form factor enables easy installation and more modules per rack.

### Long-term Reliability

Proven glass-glass package provides a robust design for installation in a variety of environments. Backed by a 10 year workmanship warranty and a 25 year limited power warranty.

### Made in the USA

All of Stion's modules are designed and manufactured in the United States under the highest quality standards.



Elevation Series solar modules are specifically designed for use in most solar applications including residential, commercial, government, utility, and off-grid projects.

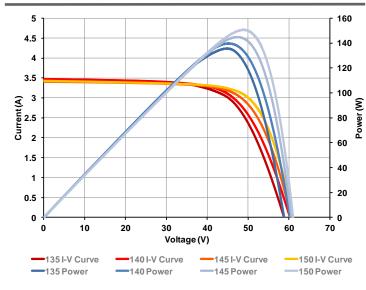




#### **Electrical Data\***

| Nominal Power, PMAX (W)               | 135                | 140   | 145   | 150   |
|---------------------------------------|--------------------|-------|-------|-------|
| Module Efficiency (%)                 | 12.4%              | 12.9% | 13.3% | 13.8% |
| Vmpp (V)                              | 44.3               | 45.5  | 46.8  | 47.9  |
| Impp (A)                              | 3.05               | 3.08  | 3.10  | 3.13  |
| Voc (V)                               | 58.7               | 59.5  | 60.9  | 62.1  |
| Isc (A)                               | 3.45               | 3.45  | 3.45  | 3.45  |
| Series Fuse Rating (A)                | 6                  |       |       |       |
| Maximum System Voltage (V)            | 600(UL) 1000 (IEC) |       |       |       |
| Temp. Coefficient (P <sup>mpp</sup> ) | -0.34%/°C          |       |       |       |
| Temp Coefficient (Voc)                | -0.28%/°C          |       |       |       |
| Temp Coefficient (ISC)                | 0.003%/°C          |       |       |       |
| Factory Binning (W)                   | +/-2.5             |       |       |       |
| NOCT**                                | 45.2°C             |       |       |       |
|                                       |                    |       |       |       |

#### **I-V Curves**



<sup>\*</sup> Measured at Standard Testing Conditions (STC): 25°C, 1000 W/m², AM 1.5 All ratings are ± 10% unless noted otherwise

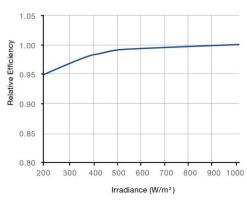
#### Mechanical Data

| Width      | 25.8 in (656mm)  |  |
|------------|--|--|
| Length     | 65.2 in (1656mm)   |  |
| Depth      | 1.4 in (35mm)  |  |
| Weight     | 37.0 lbs (16.8kg)  |  |
| Total Area | 11.68 ft <sup>2</sup> (1.09m <sup>2</sup> )                                |  |
| Frame      | Black Anodized Aluminum  |  |
| Cable      | 14 AWG Cable 39.4 in (1m)  |  |
| Connectors | MC-4 type  |  |
| J-Box      | IP 65 rated  |  |
| Cover Type | 3.2mm high transmission tempered front glass laminated to 2 mm float glass |  |

### Warranty and Qualifications

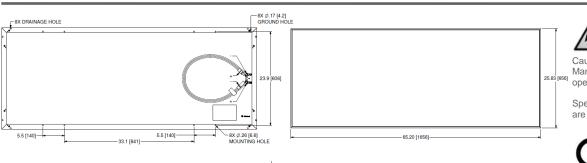
| Limited Power             | 90% at 10 years<br>80% at 25 years |  |
|---------------------------|------------------------------------|--|
| Workmanship               | 10 years                           |  |
| Fire Resistance           | Class C                            |  |
| Safety                    | Class II (IEC 61140)               |  |
| Mechanical /<br>Wind Load | 2400 Pa (50 psf)                   |  |

### Performance at Low Irradiance



Typical relative change in module efficiency from  $1000~W/m^2$  irradiance to  $200~W/m^2$  is 5%, measured at STC.

#### Dimensions Inches [mm]





Caution! Read Safety & Installation Manual before handling, installing or operating Stion products.

Specification included in this datasheet are subject to change without notice.





 $<sup>^{**}</sup>$  Normal Operating Cell Temperatures (NOCT): 800 W/m², 20°C, 1m/s wind speed